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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/286,862	04/06/1999	EDWARD CURTIS PROSSER	RO998-270	5521

7590 06/04/2003
OWEN J GAMON
IBM CORPORATION DEPT 917
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EXAMINER

NGUYEN BA, HOANG VU A

ART UNIT	PAPER NUMBER
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2122

DATE MAILED: 06/04/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/286,862

Applicant(s)
Prosser et al.

Examiner
Hoang-Vu Antony Nguyen-Ba

Art Unit
2122



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Mar 12, 2003
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4 and 17-20 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 5-16 and 21-24 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

1. This action is responsive to the Appeal Brief and Amendment with Appeal Brief, both filed March 12, 2003.
2. Claims 1-24 are pending.
3. This application is in condition for allowance except for the following formal matters.

Claim Objection

4. Claims 5, 9, 13 and 21 are objected to because of the following informalities:
 - a. Claims 5, 13 and 21 recite the limitation "the maximum register-presure data" at line 9 of claim 5, line 11 of claim 13, line 10 of claim 21. There is insufficient antecedent basis for this limitation in the claims.
 - b. Claims 9 and 13 recite the limitation "the computer procedure" at line 9 of claim 9 and line 14 of claim 13. There is insufficient antecedent basis for this limitation in the claims.
 - c. Per claims 5, 9, 13 and 21, it is unclear as of which entity the maximum register pressure is (e.g., of the parent procedure, of the child procedure, or of the call site?). Furthermore, the term "maximum register pressure" and "site register-pressure" are not specifically defined in the specification.
- Appropriate correction is required.

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Statement of Reasons for Allowance

5. Claims 6-8, 10-12, 14-16 and 22-24 are objected to as being dependent upon a rejected base claim, but would be allowable if the independent claims are rewritten to correct the deficiencies discussed above.

Claims 1-4 and 17-20 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art of record, i.e., U.S. Patent Number 5,768,595 to Gillies and U.S. Patent Number 5,740,443 to Carini; and the prior art references (e.g., Jagannathan-Wright and Serrano) found as a result of further search, when taken alone or in combination, fail to teach a method for optimizing computer program by utilizing register pressure information to make inlining decisions. Specifically, Gillies, Carini, Jagannathan-Wright and/or Serrano fail to teach making at least one decision, during a second compilation, as to whether or not to inline a child procedure into a parent procedure by using the maximum register pressure and the site register pressure.

Gillies teaches instead a method for recompiling computer programs for enhanced optimization.

Carini teaches instead performing call-site specific selective automatic inlining.

Jagannathan-Wright teaches instead that the decision to inlining at a call site is based on an estimate of the procedure's size when specialized for that call site (p. 193, section on Selectivity).

Serrano teaches instead an inlining optimization that minimizes code size growth by combining a compile-time algorithm deciding when expansion should

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occur with different expansion frameworks describing how they should be performed. Serrano, however does not teach using register pressure data for the inlining decision.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. The prior art made of record is considered pertinent to applicant's disclosure.
Jagannathan-Wright teaches Flow-directed Inlining, May 1996.
Serrano teaches Inline expansion: when and how?, 1997.

6. Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

7. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to examiner Hoang-Vu "Antony" Nguyen-Ba, whose telephone number is (703) 305-0103. The examiner can normally be reached on Monday-Thursday from 6:30 AM - 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse, can be reached at (703) 308-4789.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Fax Numbers:

Examiner's Assigned Fax Number	(703) 746-5426
After Final	(703) 746-7238
Official	(703) 746-7239
Customer Service	(703) 746-7240

Hoang-Vu "Antony" Nguyen-Ba

Hoang-Vu "Antony" Nguyen-Ba

May 30, 2003